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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

COLORADO, RIO GRANDE, MISSOURI

and

ARKANSAS DRAINAGE BASINS

February 1, 1941

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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

February 10, 1941

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WASHINGTON, D. C.

Forwarded to the
United States Department of Agriculture
Bureau of Entomology and Plant Quarantine
Division of Entomology
in connection with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

February 10, 1941

SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR MONTANA, COLORADO, WYOMING, NEW MEXICO AND ARIZONA

February 1, 1941.

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service, of the U. S. Department of Agriculture, in cooperation with State departments, other Federal bureaus and local organizations. The snow measurements are made principally by field personnel of the following organizations: U. S. Forest Service, U. S. National Park Service, U. S. Bureau of Reclamation, and U. S. Indian Service. This work is otherwise conducted cooperatively with the State Engineers of Wyoming, Colorado, and New Mexico, State Experiment Stations, and various municipalities, irrigation associations, power companies and others. Precipitation records are supplied by the U. S. Weather Bureau.

MONTANA

The water supply outlook in Montana is considerably better than it was last year at this time and, although precipitation in the eastern and central division of the state was below normal during the winter, snow cover in the mountains is greater than it was last year.

JEFFERSON RIVER. The average water content of the snow on the three courses on the watershed of the Jefferson River was 6.3 inches on February 1 and 4.3 inches last year at this time. The average for the last five years is 5.4 inches.

MADISON RIVER. On the Madison River watershed six courses had an average water content of 10.7 inches on February 1 this year and 5.8 inches a year ago while the five-year average is 10.5 inches.

GALLATIN RIVER. Three courses on the Gallatin River watershed had 5.1 inches this year, 4.1 inches last year and 5.2 inches as the five-year average.

TENMILE CREEK. Four courses on Tenmile Creek had 3.2 inches this year, 3.1 inches a year ago and 4.2 inches as the five-year average.

MARIAS RIVER. The water content of the snow on two courses on the Marias River watershed was 8.6 inches which is the same as the five-year average, but more than double the amount on these courses last year at this time.

YELLOWSTONE RIVER. Reports are available for only three courses on the Yellowstone River watershed for

February 1. These reports show that the water content of the snow was 3.8 inches this year, 3.4 inches a year ago while the five-year average is 4.5 inches.

WYOMING

NORTH PLATTE. Ten snow courses on this drainage area averaged 33 inches snow depth, water content 7.6 inches, and density 23 percent. The present condition is approximately the same as for last year at this time. The two principal snow courses, Old Battle and North French Creek measured about 10 to 15 inches less in depth than last year with about the same water content as a year ago.

LARAMIE RIVER. For this watershed, on nine courses the snow depth averaged 19 inches, water content 4.5 inches, and density 24 percent. Last year at this time the average depth was 24 inches with a water content of 4.7 inches.

WYOMING, Cont'd

SHOSHONE RIVER. Two courses on this drainage had an average snow depth of 45 inches, water content 12.2 inches, density 27 percent. These courses last year averaged 31 inches of snow containing 4.7 inches of water. Present conditions are slightly above the 5-year average.

BIG HORN RIVER. The average snow depth on four courses on the Bighorn was 38 inches, water content 10.3 inches, density 27 percent. Last year these courses averaged 31 inches with a water content of 7.4 inches. Four new courses have been located on this drainage and reported this month for the first time. The present snow conditions based on the past five-year averages show that the North Platte and Laramie River watersheds are about 75 percent of normal and that the Shoshone and Big Horn River watersheds are about normal. The density of the snow at present over Wyoming areas is better than it was last year at this time.

COLORADO

COLORADO RIVER. Twenty courses on the Colorado River drainage above Grand Junction averaged 28 inches snow depth, 5.5 inches water content, 20 percent density. This is practically the condition that existed last year at this time.

YAMPA RIVER. Four courses on the Yampa River averaged 35 inches snow depth, 7.8 inches water content, 22 percent density. For last year the snow depth averaged the same but contained 1 inch more water.

WHITE RIVER. Two courses show snow depth 37 inches, water content 9.0 inches, density 24 percent. Last year, the average snow depth was 31 inches, water content 7.9 inches.

GUNNISON RIVER. Twelve courses on the Gunnison watershed averaged 42 inches, water content 10.3 inches, density 25 percent; while for last year there was 30 inches of snow, water content 7.4 inches.

DOLORES RIVER. On three courses the average snow depth was 36 inches, water content 8.2 inches, density 23 percent, and for last year average snow depth was 24 inches, water content 6.2 inches.

SAN JUAN. Five courses on the San Juan drainage averaged 48 inches, water content 12.6 inches, density 26 percent Last year the depth was 26 inches, water content 6.6 inches.

Generally, for the Colorado River drainage the conditions are better than a year ago, especially for the Gunnison and streams in the southwest part of the state. The water content of the snow is in excess of the 5-year average. The amount of snow on the headwaters of the Colorado, Yampa and White Rivers is below normal. Soil moisture conditions in the mountain areas and the irrigated valleys are good.

SOUTH PLATTE RIVER. Three courses on the headwaters averaged 17 inches snow, 2.1 inches water content, density 12 percent, while for last year the snow depth was 12 inches, water content 1.7 inches.

CACHE LA POUDRE RIVER. Seven courses show an average snow depth of 18 inches, water content 4.6 inches, density 25 percent. Last year the snow depth was 23 inches, water content 5.4 inches.

BIG THOMPSON. Two courses on the Big Thompson averaged 34 inches snow depth, 7.9 inches water content, density 23 percent, while for last year these courses showed a depth of snow 37 inches, and a water content of 9.1 inches.

COLORADO, Cont'd

ARKANSAS RIVER. Nine courses on the Arkansas River averaged 27 inches snow depth, 5.5 inches water content, density 20 percent. The average for eight courses last year was 20 inches snow, 4.6 inches water content.

NEW MEXICO

The prospects for an ample water supply in New Mexico are unusually favorable at this time. Winter precipitation on the watersheds of the Rio Grande, Gila, San Juan, Pecos and Canadian was considerably above normal, and conditions during January have continued favorable. It is reported that soil moisture conditions have been unusually good and that water stored in the ground is considerably above normal. Winter stream flows have been greater than normal and run-off has been exceptionally good from the Gila and Little Colorado watersheds. Storage in Conchas and El Vada Reservoirs on February 1 was about 30 percent greater than last year, but storage in the Elephant Butte project reservoirs is only 64 percent of what it was last year. Heavy precipitation during the winter has resulted in the accumulation of more than usual snow in the mountains.

RIO GRANDE. On the watershed of the Rio Grande in southern Colorado and northern New Mexico the average water content of the snow on 20 courses as of February 1 was 9.3 inches; last year at this time it was 4.7 inches, and for the four-year period during which observations have been taken is 6.8 inches.

CANADIAN RIVER. There is only one course on the Canadian for which comparisons can be made. The water content of the snow on this course on February 1 was 6.0 inches; a year ago it was 2.9 inches. The four-year average is 4.4 inches.

SAN JUAN and GILA RIVERS. Conditions are equally favorable on the San Juan and Gila watersheds. Detailed information regarding these streams is given in the Colorado and Arizona forecasts.

ARIZONA

The water supply outlook in Arizona at this time is the best in years. Winter precipitation in northern Arizona was unusually heavy this year, the precipitation from October to January inclusive being nearly 4 inches above normal. January precipitation was about one half inch above normal. Heavy general rains occurred over northern and eastern Arizona on January 7, and as a result soil is thoroughly saturated. Stream flow is much above normal, and reservoir storage has greatly increased. Storage in the Salt River Valley Project reservoirs is 700,000 acre-feet more than it was on February 1 last year, and storage in the San Carlos Reservoir 260,000 acre-feet more than a year ago.

GILA RIVER. Above normal precipitation during the winter has resulted in a large accumulation of snow in the mountain areas on the watershed of the Gila and its tributaries. The average water content of the snow on six courses on the Gila in eastern Arizona and western New Mexico was 5.9 inches on February 1 this year; a year ago it was only 2.1 inches; and the four-year average for these courses is 3.6 inches.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to January 31	Departure From Normal	Precipitation January	Departure from Normal
		Inches	Inches	Inches	Inches
Missouri	East. Mont.	2.84	+0.36	0.14	-0.39
Missouri	Cent. Mont.	2.48	-0.66	0.26	-0.42
Missouri	North. Wyo.	3.87	-1.04	0.55	-0.64
North Platte	Wyoming	2.85	-0.61	0.70	-0.17
South Platte	Colorado	2.68	-1.18	0.80	-1.18
Arkansas	Colorado	2.69	-0.56	0.59	-0.02
Canadian	New Mexico	3.82	+1.13	0.52	+0.17
Rio Grande	Colorado	7.42	+2.47	1.84	+ .61
Rio Grande	New Mexico	7.03	+2.94	1.72	+0.74
Pecos	New Mexico	3.58	+0.69	0.79	+0.27
Colorado	Colorado	6.61	+1.06	1.85	+0.35
Green	Wyoming	3.16	+0.19	0.64	-0.09
San Juan	New Mexico	6.07	+2.84	1.58	+0.78
Gila	Arizona	8.68	+3.74	1.99	+0.49
Gila	New Mexico	5.48	+1.98	1.57	+0.83

GENERAL CONDITIONS

The snow cover at this time in the mountain areas of southern Colorado is better than last year and in the northern section of the state is slightly less than it was a year ago. Conditions in the Big Horn drainage, Wyoming are good, and for the Green River area in the western part of the state are very good; for the North Platte they are normal. Precipitation since October 1 was below normal over the South Platte and Arkansas drainage areas and above normal for the Colorado River and Rio Grande Basins. Conditions on the San Juan and Gila drainages in New Mexico are above normal. Soil moisture conditions are good in the mountain areas. Stream flow in northern Colorado and Wyoming has been below normal, but in New Mexico and Arizona stream flow has been good.

SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA

WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth		Water Content		Number Courses in Average	Snow Density		1941 Water Content in percent of	
	Five Year Avg.*	1940	Five Year Avg.*	1941		Five Year Avg.*	1940	Five Year Avg.*	1940
	In.	In.	In.	In.		Percent	Percent	Percent	Percent
COLORADO RIVER									
Colorado River**	32.5	26.6	28.0	5.5	20	23	20	74	95
Yampa River	40.6	35.5	35.0	7.8	4	24	22	80	89
White River	39.4	30.6	37.0	9.0	2	26	24	88	114
Gunnison River	36.9	30.0	42.4	10.3	12	24	24	117	139
Dolores River	30.6	23.6	35.9	8.2	3	21	23	128	132
San Juan River	37.3	25.6	48.1	12.6	5	25	26	133	191
Gila River	14.5	6.7	22.0	5.9	6	25	31	164	281
MISSOURI RIVER									
Jefferson River	22.3	19.7	25.0	6.3	3	24	22	117	146
Madison River	39.3	25.5	40.9	10.7	6	27	23	102	184
Gallatin River	23.6	18.9	21.0	5.1	3	22	22	98	124
Ten Mile Creek	19.4	14.9	14.8	3.2	4	22	21	76	103
Marias River	29.4	15.0	29.0	8.6	2	29	25	100	226
Yellowstone River	21.0	15.8	18.7	3.8	3	21	22	84	112
Shoshone	43.7	31.4	44.8	12.2	2	26	24	107	165
Bighorn River	39.0	27.1	38.4	10.3	4	27	24	99	161
North Platte River	42.8	38.7	33.1	7.6	10	25	20	72	100
Laramie River	25.0	23.6	19.4	4.5	9	23	20	79	96
South Platte River	23.1	20.9	18.7	3.9	16	23	22	74	85
Poudre River	25.2	23.3	18.4	4.6	7	25	23	73	85
ARKANSAS RIVER									
Arkansas River	24.9	19.9	26.6	5.5	9	22	23	100	120
Canadian River	18.5	11.0	26.0	6.0	1	24	26	136	207
RIO GRANDE									
Rio Grande	28.4	19.2	37.4	9.3	20	24	24	137	198

Some for shorter periods.
**Above Grand Junction, Colorado.

*Some for shorter periods.

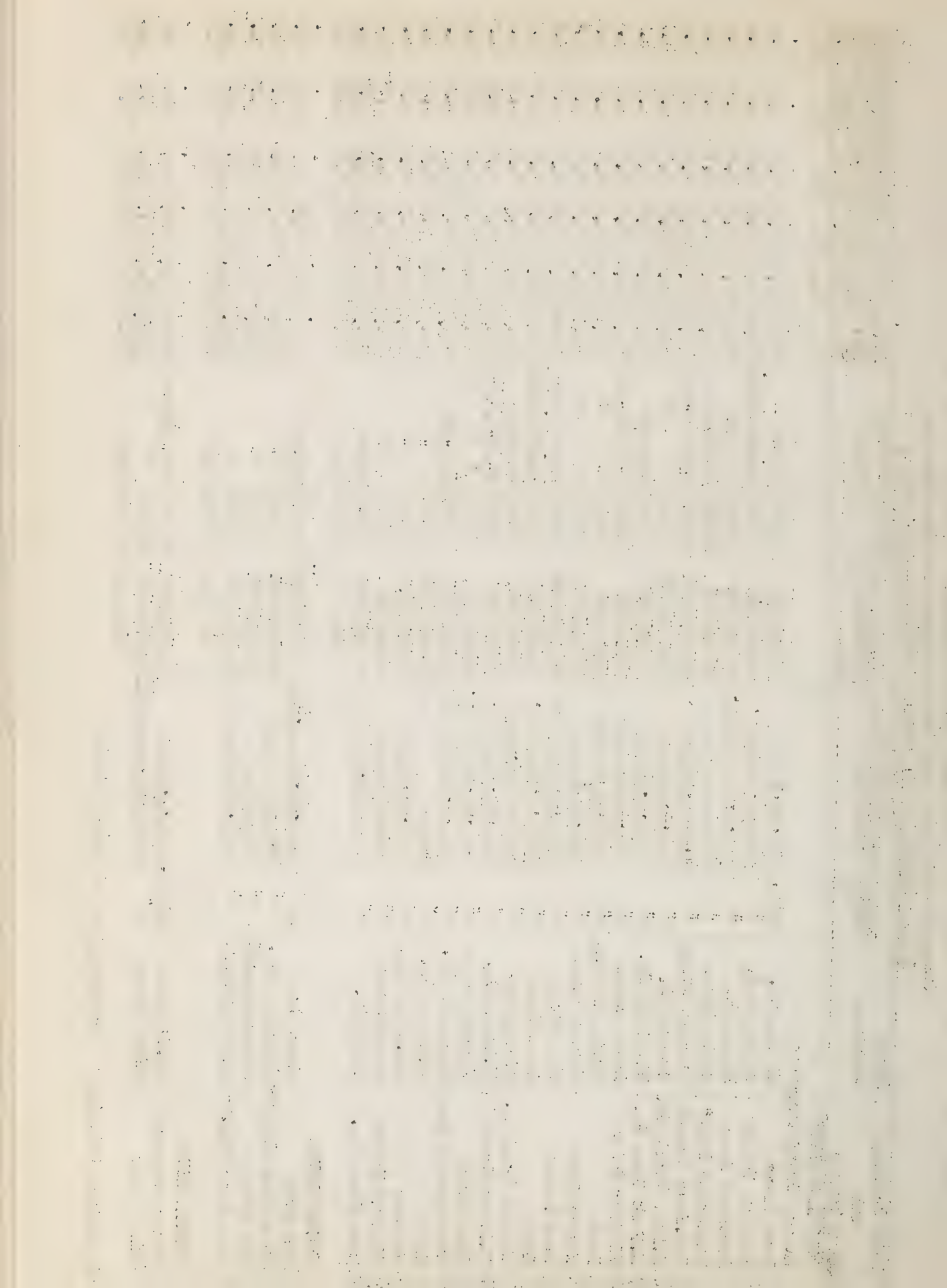
**Above Grand Junction, Colorado.

COLORADO RIVER WATERSHED

Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1941, at Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	State	Locality	Description	Elev.	National Forest	Feb. 1 Snow Course Measurements			
								Av.	Snow Depth	Av.	Water Content
								1940	1941	1940	1941
								In.	In.	In.	In.
COLORADO RIVER											
(Above Grand Junction)											
7	Park View*	Willow Cr.	Colo.	7 mi. SE. Rand	24-5N-78W	9200	Routt	24.1	18.1	20.2	5.1
12	Phantom Valley	Colorado R.	"	11 mi. N. Grand L.	7-5N-75W	9300	Ry. Mtn. N.P.	24.0	20.2	18.9	5.6
16	Berthoud Pass	Fraser R.	"	4 mi. S. West Port.	35-2S-75W	9700	Arapaho	40.5	41.9	32.5	9.0
19	Tennessee Pass*	Eagle River	"	Tennessee Pass	21-8S-80W	10200	Cochetopa	23.6	17.6	21.2	4.1
33	Ind. Pass Tunnel	Lincoln Gulch	"	W. Port. Tunnel	30-11S-82W	10200	Holy Cross	38.1	27.0	34.6	9.8
34	N. Lost Trail Cr.	Crystal R.	"	3 mi. E. Marble	20-11S-87W	9200	"	32.0	26.3	30.5	7.3
37	M. Fork Camp Cr.	Williams Fk.	"	13 mi. N. Dillon	16-3S-77W	9000	Arapaho	26.6	21.5	24.4	5.7
44	Fiddler Gulch	Eagle River	"	2 mi. E. Mitchell	1-8S-80W	11000	Holy Cross	35.3	24.0	35.5	7.4
45	Nast	Frying Pan R.	"	23 mi. SE. Basalt	1-9S-83W	8700	"	21.2	15.4	17.8	4.2
54	Maroon Lake	Maroon Creek	"	8 mi. SW. Aspen	7-11S-85W	9300	"	33.5	22.9	30.9	7.4
56	Mesa Lakes	Mesa Creek	"	15 mi. E. Palisade	35-11S-96W	10000	Grand Mesa	38.4	27.9	53.6	9.5
59	Lulu	Lulu Creek	"	14 mi. N. Grand L.	25-6N-76W	10200	Ry. Mtn. N.P.	43.0	43.7	25.0	12.0
62	Willow Creek P.	Willow Cr.	"	Willow Cr. Pass	1-4N-78W	9500	Arapaho	31.2	23.8	24.8	6.9
64	N. Inlet Grand L.	N. Inlet Cr.	"	4 mi. NE. Grand L.	26-4N-75W	9000	Ry. Mtn. N.P.	25.5	22.3	21.1	5.9
65	Lake Irene	Beaver Creek	"	1 mi. SW. Milner P.	8-5N-75W	10600	"	47.5	36.4	34.5	13.0
66	Thunderbolt Peak	Buchanan Cr.	"	5 mi. E. Monarch L.	22-2N-74W	9500	Arapaho	42.2	32.9	28.4	10.7
69	Arrow	S. Ranch Cr.	"	Arrow	34-1S-75W	9900	"	26.6	28.4	17.6	4.8
70	Lapland	St. Louis Cr.	"	7 mi. SW. Fraser	16-2S-76W	9300	"	23.8	22.3	25.2	4.2
79	Fremont Pass #2	Blue River	"	Fremont Pass	2-8S-79W	11400	"	38.4	31.1	33.3	7.8
91	Lynx Pass No. 2	Rock Cr.	"	7 mi. NE. Toponas	27-2N-83W	9100	Routt	34.7	27.3	29.7	8.0
					Average for Drainage			32.5	26.6	28.0	7.4
YAMPA RIVER											
6	Dry Lake	Soda Creek	Colo.	4 mi. NE. Steam. Spgs	26-7N-84W	8200	Routt	38.6	38.7	38.4	9.1
8	Columbine Lodge*	Harrison Cr.	"	Rbt. Ears Pass	21-5N-82W	9300	"	52.4	41.4	40.5	13.0
9	Elk River	Independence Cr.	"	Columbine	6-10N-85W	8700	"	36.8	34.7	31.2	8.9
91	Lynx Pass No. 2*	Morrison Cr.	"	7 mi. NE. Toponas	27-2N-83W	9100	"	34.7	27.3	29.7	8.0
					Average for Drainage			40.6	35.5	35.0	9.8
WHITE RIVER											
35	Burro Mountain	N. Elk Creek	Colo.	8 mi. S. Buford	15-2S-91W	9000	White River	42.5	33.0	39.6	11.0
36	Rio Blanco	White River	"	4 mi. NW. Trappers L.	28-1N-88W	8500	"	36.4	28.3	34.3	9.3
					Average for Drainage			39.4	30.6	37.0	10.2

*On adjacent drainage +Readings on original course



COLORADO RIVER WATERSHED

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Issued February 10, 1941, at Fort Collins, Colo.

Issued February 10, 1941 at Fort Collins, Colo.												
Main Drainage and No. Snow Course	Local Drainage	State	Location		Descrip- tion	Elev.	National Forest		Feb. 1 Snow Course Measurements			
			Locality				Av. Snow Depth	Content				
								1940	1941	Avg.		
In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
GUNNISON RIVER												
18 Crested Butte	Slate River	Colo.	3mi. N. Crested B.	22-13S-86W	9000	Gunnison	35.4	28.7	39.7	7.1	5.4	7.9
42 Marshall Creek	Marshall Cr.	"	Marshall Pass	24-48N-6E	10800	Cochetopa	31.0	28.3	34.5	7.1	7.4	7.8
43 Poncha Creek*	"	"	"	19-48N-7E	10500	"	25.5	24.1	33.4	6.5	7.1	7.9
46 Park Cone	Taylor River	"	Taylor Park Res.	19-14S-82W	9700	Gunnison	25.3	18.7	24.6	4.6	3.8	4.1
53 Alexander Lake	Kiser Creek	"	10mi. N. Cedaredge	2-12S-95W	10000	Grand Mesa	50.4	30.6	64.6	12.1	8.1	16.0
55 Snowshoe Mesa	Snowshoe Cr.	"	16mi. NE. Paonia	14-13S-89W	7500	Gunnison	27.6	26.5	22.3	7.1	9.0	4.6
58 Ironton Park	Red Mtn. Cr.	"	5mi. S. Ouray	29-43N-7W	9800	Uncompahgre	29.4	26.1	37.4	7.3	7.4	9.9
85 Trickle Divide	Surface Cr.	"	13mi. N. Cedaredge	23-11S-94W	10000	Grand Mesa	54.6	47.1	62.1	13.7	10.4	17.0
86 Trickle	"	"	11mi. " "	34-11S-94W	9700	"	43.7	29.9	57.5	11.7	7.6	15.8
87 Park Reservoir	"	"	"	34-11S-94W	9500	"	50.4	42.3	58.6	13.0	9.8	16.1
89 Porphyry Creek	Porphyry Cr.	"	Monarch Pass	19-49N-6E	10800	Cochetopa	39.4	35.1	43.6	9.0	7.6	10.4
94 Sunshine Mt. No. 2	Henson Cr.	"	10mi. W. Lake City	35-44N-6W	10200	Gunnison	30.3	22.2	30.4	6.7	5.6	6.5
Average for Drainage							36.9	30.0	42.4	8.8	7.4	10.3
DOLORES RIVER												
23 Rico	Dolores R.	Colo.	2mi. S. Rico	11-39N-11W	8700	Montezuma	24.1	21.6	27.2	5.1	6.0	7.5
24 Telluride	San Miguel R.	"	Telluride	6-42N-8W	8600	"	28.1	22.3	29.2	5.2	4.2	6.3
25 Lizard Head	Dolores R.	"	10mi. N. Rico	24-41N-10W	10300	"	39.5	26.8	51.2	8.8	8.5	10.8
90 Lone Cone	Ground Hog Cr.	"	16mi. N. W. Rico	23-41N-13W	8900	"	30.6	23.6	35.9	6.4	6.2	8.2
Average for Drainage							30.6	23.6	35.9	6.4	6.2	8.2
SAN JUAN RIVER												
26 Wolf Creek Pass*	Wolf Creek	Colo.	Wolf Creek Pass	4-37N-2E	10000	Rio Grande	49.4	32.0	66.8	13.5	8.7	18.3
29 Upper San Juan	"	"	4mi. W. Wolf Cr. P.	10-37N-1E	10000	San Juan	58.6	37.5	79.6	15.7	10.1	21.3
30 Silverton Sub. S.	Animas R.	"	2mi. NE. Silverton	10-41N-7W	9400	"	19.9	14.2	26.4	4.4	3.4	5.8
31 Cascade	Cascade Cr.	"	5mi. N. Electra L.	12-39N-9W	8850	"	30.1	19.6	35.1	6.8	5.6	8.5
93 Granite Peaks	Los Pinos R.	"	11mi. NE. Columbus	24-37N-6W	7950	San Juan	44.0	34.0	44.0	14.0	11.4	14.0
2 Roof Butte	Chin Lee Cr.	Ariz.	8mi. S. Lukochuka	36-4N109.1W	8500	Navajo Res.	44.0	36.3	44.0	11.3	11.3	11.3
13 Washington Pass	Tuntsa Wash	N. Mex.	12mi. NE. Crystal	26-1N108.8W	8600	"	36.3	36.3	36.3	11.3	5.0	9.0
17 Chama Divide*	Amargo R.	"	6mi. W. Chama	36-9N106.7W	7750	Off Forest	28.6	24.7	32.5	7.1	5.0	9.0
18 Chamita*	Navajo R.	"	6mi. NW. Chama	36-9N106.7W	8500	"	28.6	24.7	32.5	7.1	5.0	9.0
Average for Drainage							37.3	25.6	48.1	9.5	6.6	12.6

*On adjacent drainage E Estimated

*Readings on original course.

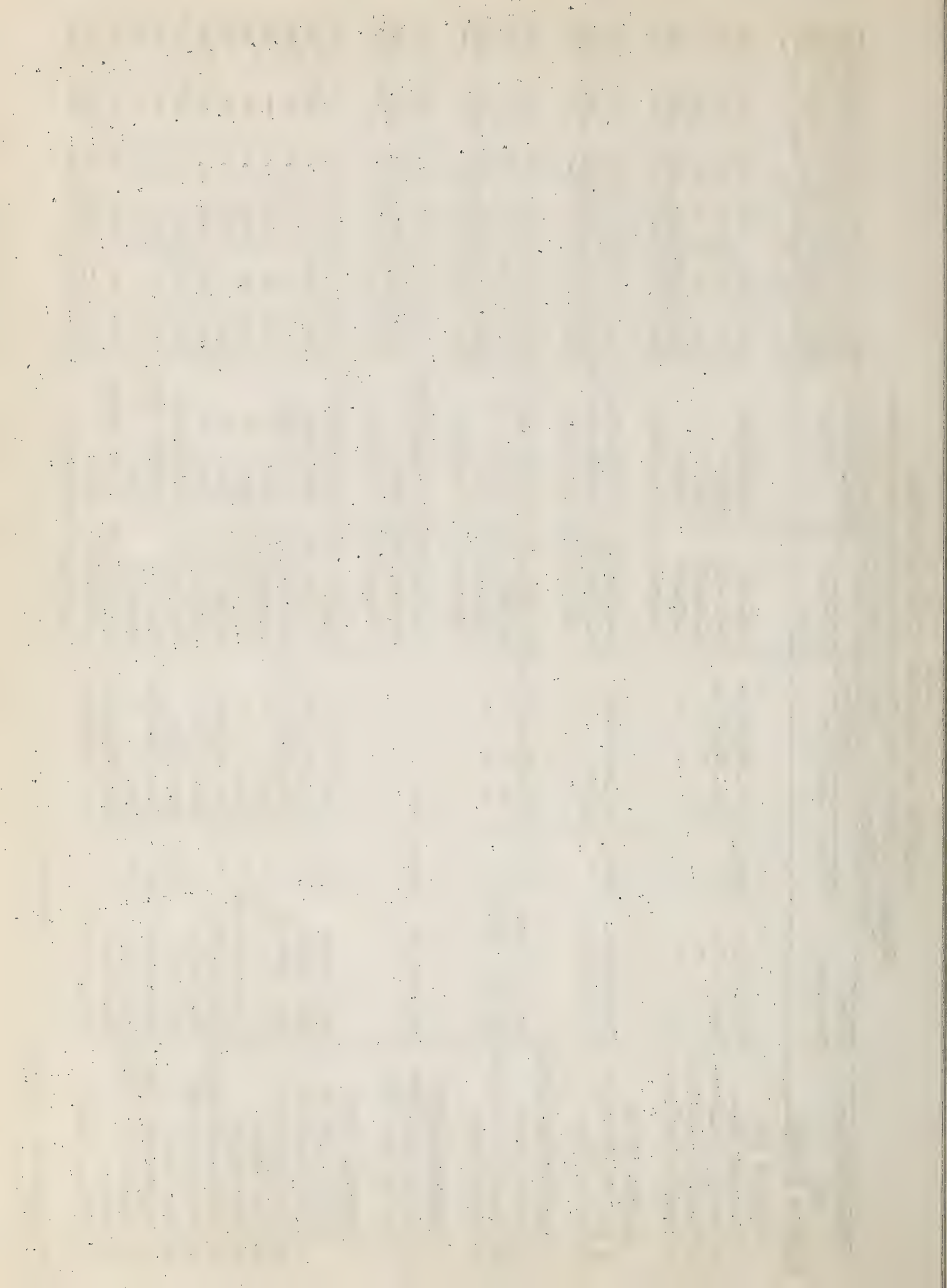
*On adjacent drainage
+Readings Jan. 16.

*On adjacent drainage
+Readings Jan. 16.

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1941, at Fort Collins, Colo.

Main Drainage and No. Snow Course	Local Drainage	Location		Elev.	National Forest	Feb. 1 Snow Course Measurements			
		State	Locality			Descr- tion	Av. Snow Depth	Snow Depth	Av. Water Content
							1940	1941	1940
							In.	In.	In.
TENMILE CR.									
6 Chessman Res.	Tenmile Cr.	Mont.	11mi. SW. Helena		6200	Helena	10.7	8.4	2.5
41 Tenmile Cr. Lower	Tenmile Cr.	"	17mi. SW. Helena		6250	"	17.1	14.1	1.6
42 Tenmile Cr. Middle	"	"	"		6800	"	23.1	17.2	3.6
43 Tenmile Cr. Upper	"	"	"		8000	"	26.6	20.0	4.8
						Average for Drainage	19.4	14.9	3.1
MARIAS RIVER									
7 Desert Mountain*	Cutbend Cr.	Mont.	4mi. S. Belton		5600	Flathead	25.3	18.0	7.0
20 Marias Pass	Two Medicine	"	Summit		5250	Glacier NF	33.4	25.5	10.1
						Average for Drainage	29.4	15.0	8.6
YELLOWSTONE RIVER									
40 Lupine Creek	Lupine Creek	Mont	11mi. SE. Gardiner		7300	Yel. Nat. P.	22.0	15.1	4.4
41 Blacktail Deer Cr.	Blk. Tail D. Cr.	"	"		7500	"	23.7	17.0	5.4
42 Beaver Dams	"	"	"		7200	"	17.3	15.4	3.6
						Average for Drainage	21.0	15.8	4.5
SHOSHONE RIVER									
50 Brooks Lake #3*	Shoshone R.	Mont.	Brooks Lake		9200	Washakie	34.6	25.7	8.7
Brooks Lake #1*	"	"	"		9000	"	52.8	37.0	14.2
						Average for Drainage	43.7	31.4	11.4
BIGHORN RIVER									
Brooks Lake #1	Wind River	Wyo.	Brooks Lake		9000	Washakie	52.8	37.0	14.2
12 Togwotee Pass	Wind River	"	Togwotee Pass		9600	Teton	54.1	35.0	15.7
45 Sawmill Glade	Popo Agie R.	"	13mi. SW. Lander		8500	Washakie	9.7	---	---
46 Blue Ridge	"	"	15mi. "		9500	"	16.1	16.1	3.2
47 South Pass	L. Popo Agie R.	"	19mi. "		9000	"	24.5	24.5	5.6
49 Sheridan Cr. R. S. #2	Sheridan Cr.	"	16mi. NW. Dubois		7500	"	18.7	18.7	3.9
50 Brooks Lake #3	Wind River	"	Brooks Lake		9200	"	34.6	25.7	8.7
14 Dome Lake	Goose Cr.	Wyo.	Dome Lake		8800	Bighorn	14.6	10.8	3.2
51 St. Lawrence R. S.	St. Lawrence Cr.	"	27mi. NW. Lander		9000	Shos. I. R.	10.3	---	---
52 Mosquito Park R. S.	Trout Creek	"	18mi. "		9500	"	11.9	11.9	2.0
53 DuNoir	Wind River	"	9mi. NW Dubois		8750	Washakie	19.2	19.2	4.3
54 T-Cross Ranch	Horse Creek	"	12mi. N. Dubois		8000	"	12.0	12.0	2.0
						Average for Drainage	39.0	27.1	10.4

*On adjacent drainage E - Estimated



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			State	Locality			Av. Snow Depth	Av. Water Content		
							1940	1941	1940	1941
							In.	In.	In.	In.
NO. PLATTE RIVER										
1	Cameron Pass	Michigan Cr.	Colo.	Cameron Pass	10300	Roosevelt	39.3	36.1	11.0	9.5
7	Park View	Illinois Cr.	"	7mi. SE. Rand	9200	Routt	24.1	18.1	5.1	2.3
8	Columbine Lodge	Grizzly Cr.	"	Rbt. Ears Pass	9300	"	52.4	41.4	13.0	9.9
62	Willow Creek P.*	Illinois Cr.	"	Willow Cr. Pass	9500	Arapaho	31.2	23.8	6.9	4.4
7	Bottle Creek	Encampment Cr.	Wyo.	7mi. SW. Encampment	8200	Medicine Bow	30.0	25.1	7.0	4.2
8	Webber Spring	"	"	10mi. W.	9000	"	36.9	34.1	8.5	6.5
9	Old Battle	"	"	12mi. W.	9800	"	61.4	59.6	15.9	12.3
37	North French Cr.	N. French Cr.	"	Cent/Saratoga	10200	"	63.8	61.9	17.3	11.5
38	N. Barrett Cr. #2	Barrett Cr.	"	"	9400	"	53.4	53.4	13.1	9.2
39	Ryan Park #2	"	"	"	8400	"	35.8	33.4	8.2	6.4
						Average for Drainage	42.8	33.7	10.6	7.6
SWEETWATER RIVER										
29	Grannier Meadows	Rock Creek	Wyo.	20mi. SW. Lander	9000	Washakie	26.5	--	6.5	--
LARAMIE RIVER										
3	Brooklyn Lake	Nash Fork	Wyo.	7mi. NW. Centennial	10200	Medicine Bow	38.0	33.0	26.5	10.7
11	Fox Park	Fox Creek	"	Fox Park	9200	"	22.8	27.9	18.1	5.2
34	Pole Mountain #2*	Soldier Cr.	"	10mi. SE. Laramie	8700	"	14.5	13.4	10.1	3.1
35	Libby Lodge #2	Libby Creek	"	3mi. NW. Centennial	8700	"	19.6	17.1	17.4	4.0
36	Hairpin Turn #2	Nash Fork	"	5mi. NW.	9500	"	22.3	16.7	15.9	5.2
4	W. Port. G-P. Tunnel	Laramie R.	Colo.	4mi. N. Chambers	8600	Roosevelt	20.3	19.1	14.1	5.3
50	Deadman Hill*	Deadman Cr.	"	10mi. W. R. Feather	10200	"	27.8	24.8	21.5	6.2
71	Deadman Hill #2*	Deadman Cr.	"	8mi. SW.	10200	"	23.9	21.5	18.5	4.9
88	Roach	La Garde Cr.	"	8mi. NW. Glendevy	9800	"	35.5	38.5	32.5	6.9
						Average for Drainage	25.0	23.6	19.4	5.7

*On adjacent drainage

+Readings on original course

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			Locality	Descrip- tion			Av. Snow Depth	Av. Water Content	1940	1941
							In.	In.	In.	In.
SOUTH PLATTE RIVER										
14	Hoosier Pass	Colo.	Hoosier Pass	13-8S-78W	11400	Pike	24.8	16.5	21.9	4.4
15	Fairplay	"	Fairplay	33-9S-77W	10000	"	4.7	0.0	9.8	0.4
83	Jefferson Cr. #2	"	5mi. NW. Jefferson	14-7S-76W	10100	"	18.6	18.9	18.3	2.4
				Average for Drainage			16.0	11.8	16.7	2.4
							In.	In.	In.	In.
CROW CREEK										
34	Pole Mountain #2	Wyo.	10mi. SE. Laramie	35-15N-72W	8700	Medicine Bow	14.5	13.4	10.1	3.1
POUDRE RIVER										
1	Cameron Pass	Colo.	Cameron Pass	2-6N-76W	10300	Roosevelt	39.3	36.1	30.3	11.0
2	Chambers Lake	"	Chambers Lake	6-7N-75W	9000	"	15.7	18.3	8.8	4.1
3	Big South	"	2mi. E. Chambers L.	33-8N-75W	8600	"	5.7	8.8	3.5	1.3
50	Deadman Hill	"	10mi. W. R. Feather	26-10N-75W	10200	"	27.8	24.8	21.5	6.2
65	Lake Irene*	"	1mi. SW. Milner P.	8-5N-75W	10600	Ry. Mtn. N.P.	47.5	36.2	34.5	13.0
68	Hour Glass Lake	"	2mi. NW. Pingree P.	18-7N-73W	9500	Roosevelt	16.7	17.6	11.5	3.4
71	Deadman Hill #2	"	8mi. SW. R. Feather	6-9N-74W	10200	"	23.9	21.5	18.5	4.9
				Average for Drainage			25.2	23.3	18.4	6.3
							In.	In.	In.	In.
BIG THOMPSON										
65	Lake Irene*	Colo.	1mi. SW. Milner P.	8-5N-75W	10600	Ry. Mtn. N.P.	47.5	36.2	34.5	13.0
67	Fall River	"	12mi. W. Estes P.	6-5N-74W	10600	"	37.4	38.0	34.0	10.1
95	Hidden Valley No. 2	"	9mi. W. Estes P.	23-5N-74W	9550	"	21.0	--	21.0	4.2
				Average for Drainage			42.4	37.1	34.2	11.6
							In.	In.	In.	In.
ST. VRAIN RIVER										
41	Wild Basin	Colo.	5mi. W. Allens P.	24-3N-74W	10000	Ry. Mtn. N.P.	24.9	20.4	19.4	5.3
BOULDER CREEK										
5	E. Port. Moffat T.	Colo.	East Portal	2-2S-74W	9400	Roosevelt	9.5	7.8	10.7	2.0
60	University Camp #2	"	5mi. SW. Ward	28-1N-73W	10300	"	33.3	32.5	20.5	9.1
				Average for Drainage			21.4	20.2	15.6	5.6
							In.	In.	In.	In.

*On adjacent Drainage

1. The first part of the paper is devoted to a general
discussion of the problem. It is shown that the
problem is of great importance in the theory of
differential equations. The problem is to find the
general solution of the differential equation
$$y'' + p(x)y' + q(x)y = r(x)$$

where $p(x)$, $q(x)$ and $r(x)$ are functions of x .
The general solution of this equation can be found
by the method of variation of parameters. The
method consists in assuming a particular solution
of the form
$$y = u(x)y_1(x) + v(x)y_2(x)$$

where $y_1(x)$ and $y_2(x)$ are two linearly
independent solutions of the homogeneous equation
$$y'' + p(x)y' + q(x)y = 0$$

and $u(x)$ and $v(x)$ are functions to be
determined. The method of variation of parameters
leads to a system of two equations for $u(x)$ and
 $v(x)$. These equations can be solved by the
method of integration by parts. The general
solution of the inhomogeneous equation is then
given by
$$y = u(x)y_1(x) + v(x)y_2(x) + y_3(x)$$

where $y_3(x)$ is a particular solution of the
inhomogeneous equation. The method of variation
of parameters is a very powerful method for
finding the general solution of a linear differential
equation of the second order. It is applicable to
any such equation, provided that two linearly
independent solutions of the homogeneous equation
can be found. The method of variation of
parameters is also applicable to linear differential
equations of higher order. In this case, the
particular solution is assumed to be a linear
combination of n linearly independent solutions
of the homogeneous equation, where n is the
order of the equation. The method of variation
of parameters is a very important method in the
theory of differential equations. It is one of the
most powerful methods for finding the general
solution of a linear differential equation. The
method of variation of parameters is also
applicable to nonlinear differential equations. In
this case, the method is used to find a
particular solution of the nonlinear equation.
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			Locality				Av. Snow Depth	Snow Depth	Av. Water Content	
							1940	1941	1940	1941
							In.	In.	In.	In.
CLEAR CREEK										
61	Loveland Pass #2	Colo.	10 mi. W. Georgetown		10100	27-4S-76W	24.8	24.0	25.5	3.9
ARKANSAS RIVER										
19	Tennessee Pass	Colo.	Tennessee Pass		10200	21-8S-80W	23.6	17.6	21.2	3.1
21	Twin Lakes Tun.	"	9 mi. W. Twin Lakes		10500	22-11S-82W	26.5	19.6	23.6	4.5
42	Marshall Creek*	"	Marshall Pass		10800	24-48N-6E	31.0	28.3	34.5	7.8
43	Poncha Creek	"	"		10500	19-48N-7E	25.5	24.1	33.4	7.9
72	Whiskey Creek #2	"	Whiskey Cr. Pass		10300	37-2N105.2W	18.9	12.4	25.4	7.0
74	LaVeta Pass #2*	"	LaVeta Pass		9300	22-28S-70W	22.2	15.2	29.1	6.4
78	Four Mile Park #2	"	3 mi. SW. Twin L.		9700	23-11S-81W	13.1	10.8	12.7	2.5
79	Fremont Pass #2	"	Fremont Pass		11400	2-8S-79W	38.4	31.1	33.3	4.8
92	Monarch Pass	"	Monarch Pass		10500	16-49N-6E	44.3	--	44.3	10.0
						Average for Drainage	24.9	19.9	26.6	5.5
CANADIAN										
9	Hematite Park	N. Mex.	3 mi. SE. Red R.		9500	8-28N-15E	18.5	11.0	26.0	6.0
10	Ocate Mesa	"	3 mi. E. Black L.		9200	25-24N-16E	19.6	--	19.6	4.5
						Average for Drainage	18.5	11.0	26.0	6.0
									4.4	2.9
									4.5	2.9
									4.4	2.9

*On adjacent drainage

*On surface of glacier

10	Open Mass	Open Creek	"	2nd 2. Drive T.	Various loc. Drivings	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0	90.0	91.0	92.0	93.0	94.0	95.0	96.0	97.0	98.0	99.0	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	149.0	150.0	151.0	152.0	153.0	154.0	155.0	156.0	157.0	158.0	159.0	160.0	161.0	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0	170.0	171.0	172.0	173.0	174.0	175.0	176.0	177.0	178.0	179.0	180.0	181.0	182.0	183.0	184.0	185.0	186.0	187.0	188.0	189.0	190.0	191.0	192.0	193.0	194.0	195.0	196.0	197.0	198.0	199.0	200.0	201.0	202.0	203.0	204.0	205.0	206.0	207.0	208.0	209.0	210.0	211.0	212.0	213.0	214.0	215.0	216.0	217.0	218.0	219.0	220.0	221.0	222.0	223.0	224.0	225.0	226.0	227.0	228.0	229.0	230.0	231.0	232.0	233.0	234.0	235.0	236.0	237.0	238.0	239.0	240.0	241.0	242.0	243.0	244.0	245.0	246.0	247.0	248.0	249.0	250.0	251.0	252.0	253.0	254.0	255.0	256.0	257.0	258.0	259.0	260.0	261.0	262.0	263.0	264.0	265.0	266.0	267.0	268.0	269.0	270.0	271.0	272.0	273.0	274.0	275.0	276.0	277.0	278.0	279.0	280.0	281.0	282.0	283.0	284.0	285.0	286.0	287.0	288.0	289.0	290.0	291.0	292.0	293.0	294.0	295.0	296.0	297.0	298.0	299.0	300.0	301.0	302.0	303.0	304.0	305.0	306.0	307.0	308.0	309.0	310.0	311.0	312.0	313.0	314.0	315.0	316.0	317.0	318.0	319.0	320.0	321.0	322.0	323.0	324.0	325.0	326.0	327.0	328.0	329.0	330.0	331.0	332.0	333.0	334.0	335.0	336.0	337.0	338.0	339.0	340.0	341.0	342.0	343.0	344.0	345.0	346.0	347.0	348.0	349.0	350.0	351.0	352.0	353.0	354.0	355.0	356.0	357.0	358.0	359.0	360.0	361.0	362.0	363.0	364.0	365.0	366.0	367.0	368.0	369.0	370.0	371.0	372.0	373.0	374.0	375.0	376.0	377.0	378.0	379.0	380.0	381.0	382.0	383.0	384.0	385.0	386.0	387.0	388.0	389.0	390.0	391.0	392.0	393.0	394.0	395.0	396.0	397.0	398.0	399.0	400.0	401.0	402.0	403.0	404.0	405.0	406.0	407.0	408.0	409.0	410.0	411.0	412.0	413.0	414.0	415.0	416.0	417.0	418.0	419.0	420.0	421.0	422.0	423.0	424.0	425.0	426.0	427.0	428.0	429.0	430.0	431.0	432.0	433.0	434.0	435.0	436.0	437.0	438.0	439.0	440.0	441.0	442.0	443.0	444.0	445.0	446.0	447.0	448.0	449.0	450.0	451.0	452.0	453.0	454.0	455.0	456.0	457.0	458.0	459.0	460.0	461.0	462.0	463.0	464.0	465.0	466.0	467.0	468.0	469.0	470.0	471.0	472.0	473.0	474.0	475.0	476.0	477.0	478.0	479.0	480.0	481.0	482.0	483.0	484.0	485.0	486.0	487.0	488.0	489.0	490.0	491.0	492.0	493.0	494.0	495.0	496.0	497.0	498.0	499.0	500.0	501.0	502.0	503.0	504.0	505.0	506.0	507.0	508.0	509.0	510.0	511.0	512.0	513.0	514.0	515.0	516.0	517.0	518.0	519.0	520.0	521.0	522.0	523.0	524.0	525.0	526.0	527.0	528.0	529.0	530.0	531.0	532.0	533.0	534.0	535.0	536.0	537.0	538.0	539.0	540.0	541.0	542.0	543.0	544.0	545.0	546.0	547.0	548.0	549.0	550.0	551.0	552.0	553.0	554.0	555.0	556.0	557.0	558.0	559.0	560.0	561.0	562.0	563.0	564.0	565.0	566.0	567.0	568.0	569.0	570.0	571.0	572.0	573.0	574.0	575.0	576.0	577.0	578.0	579.0	580.0	581.0	582.0	583.0	584.0	585.0	586.0	587.0	588.0	589.0	590.0	591.0	592.0	593.0	594.0	595.0	596.0	597.0	598.0	599.0	600.0	601.0	602.0	603.0	604.0	605.0	606.0	607.0	608.0	609.0	610.0	611.0	612.0	613.0	614.0	615.0	616.0	617.0	618.0	619.0	620.0	621.0	622.0	623.0	624.0	625.0	626.0	627.0	628.0	629.0	630.0	631.0	632.0	633.0	634.0	635.0	636.0	637.0	638.0	639.0	640.0	641.0	642.0	643.0	644.0	645.0	646.0	647.0	648.0	649.0	650.0	651.0	652.0	653.0	654.0	655.0	656.0	657.0	658.0	659.0	660.0	661.0	662.0	663.0	664.0	665.0	666.0	667.0	668.0	669.0	670.0	671.0	672.0	673.0	674.0	675.0	676.0	677.0	678.0	679.0	680.0	681.0	682.0	683.0	684.0	685.0	686.0	687.0	688.0	689.0	690.0	691.0	692.0	693.0	694.0	695.0	696.0	697.0	698.0	699.0	700.0	701.0	702.0	703.0	704.0	705.0	706.0	707.0	708.0	709.0	710.0	711.0	712.0	713.0	714.0	715.0	716.0	717.0	718.0	719.0	720.0	721.0	722.0	723.0	724.0	725.0	726.0	727.0	728.0	729.0	730.0	731.0	732.0	733.0	734.0	735.0	736.0	737.0	738.0	739.0	740.0	741.0	742.0	743.0	744.0	745.0	746.0	747.0	748.0	749.0	750.0	751.0	752.0	753.0	754.0	755.0	756.0	757.0	758.0	759.0	760.0	761.0	762.0	763.0	764.0	765.0	766.0	767.0	768.0	769.0	770.0	771.0	772.0	773.0	774.0	775.0	776.0	777.0	778.0	779.0	780.0	781.0	782.0	783.0	784.0	785.0	786.0	787.0	788.0	789.0	790.0	791.0	792.0	793.0	794.0	795.0	796.0	797.0	798.0	799.0	800.0	801.0	802.0	803.0	804.0	805.0	806.0	807.0	808.0	809.0	810.0	811.0	812.0	813.0	814.0	815.0	816.0	817.0	818.0	819.0	820.0	821.0	822.0	823.0	824.0	825.0	826.0	827.0	828.0	829.0	830.0	831.0	832.0	833.0	834.0	835.0	836.0	837.0	838.0	839.0	840.0	841.0	842.0	843.0	844.0	845.0	846.0	847.0	848.0	849.0	850.0	851.0	852.0	853.0	854.0	855.0	856.0	857.0	858.0	859.0	860.0	861.0	862.0	863.0	864.0	865.0	866.0	867.0	868.0	869.0	870.0	871.0	872.0	873.0	874.0	875.0	876.0	877.0	878.0	879.0	880.0	881.0	882.0	883.0	884.0	885.0	886.0	887.0	888.0	889.0	890.0	891.0	892.0	893.0	894.0	895.0	896.0	897.0	898.0	899.0	900.0	901.0	902.0	903.0	904.0	905.0	906.0	907.0	908.0	909.0	910.0	911.0	912.0	913.0	914.0	915.0	916.0	917.0	918.0	919.0	920.0	921.0	922.0	923.0	924.0	925.0	926.0	927.0	928.0	929.0	930.0	931.0	932.0	933.0	934.0	935.0	936.0	937.0	938.0	939.0	940.0	941.0	942.0	943.0	944.0	945.0	946.0	947.0	948.0	949.0	950.0	951.0	952.0	953.0	954.0	955.0	956.0	957.0	958.0	959.0	960.0	961.0	962.0	963.0	964.0	965.0	966.0	967.0	968.0	969.0	970.0	971.0	972.0	973.0	974.0	975.0	976.0	977.0	978.0	979.0	980.0	981.0	982.0	983.0	984.0	985.0	986.0	987.0	988.0	989.0	990.0	991.0	992.0	993.0	994.0	995.0	996.0	997.0	998.0	999.0	1000.0	1001.0	1002.0	1003.0	1004.0	1005.0	1006.0	1007.0	1008.0	1009.0	1010.0	1011.0	1012.0	1013.0	1014.0	1015.0	1016.0	1017.0	1018.0	1019.0	1020.0	1021.0	1022.0	1023.0	1024.0	1025.0	1026.0	1027.0	1028.0	1029.0	1030.0	1031.0	1032.0	1033.0	1034.0	1035.0	1036.0	1037.0	1038.0	1039.0	1040.0	1041.0	1042.0	1043.0	1044.0	1045.0	1046.0	1047.0	1048.0	1049.0	1050.0	1051.0	1052.0	1053.0	1054.0	1055.0	1056.0	1057.0	1058.0	1059.0	1060.0	1061.0	1062.0	1063.0	1064.0	1065.0	1066.0	1067.0	1068.0	1069.0	1070.0	1071.0	1072.0	1073.0	1074.0	1075.0	1076.0	1077.0	1078.0	1079.0	1080.0	1081.0	1082.0	1083.0	1084.0	1085.0	1086.0	1087.0	1088.0	1089.0	1090.0	1091.0	1092.0	1093.0	1094.0	1095.0	1096.0	1097.0	1098.0	1099.0	1100.0	1101.0	1102.0	1103.0	1104.0	1105.0	1106.0	1107.0	1108.0	1109.0	1110.0	1111.0	1112.0	1113.0	1114.0	1115.0	1116.0	1117.0	1118.0	1119.0	1120.0	1121.0	1122.0	1123.0	1124.0	1125.0	1126.0	1127.0	1128.0	1129.0	1130.0	1131.0	1132.0	1133.0	1134.0	1135.0	1136.0	1137.0	1138.0	1139.0	1140.0	1141.0	1142.0	1143.0	1144.0	1145.0	1146.0	1147.0	1148.0	1149.0	1150.0	1151.0	1152.0	1153.0	1154.0	1155.0	1156.0	1157.0	1158.0	1159.0	1160.0	1161.0	1162.0	1163.0	1164.0	1165.0	1166.0	1167.0	1168.0	1169.0	1170.0	1171.0	1172.0	1173.0	1174.0	1175.0	1176.0	1177.0	1178.0	1179.0	1180.0	1181.0	1182.0	1183.0	1184.0	1185.0	1186.0	1187.0	1188.0	1189.0	1190.0	1191.0	1192.0	1193.0	1194.0	1195.0	1196.0	1197.0	1198.0	1199.0	1200.0	1201.0	1202.0	1203.0	1204.0	1205.0	1206.0	1207.0	1208.0	1209.0	1210.0	1211.0	1212.0	1213.0	1214.0	1215.0	1216.0	1217.0	1218.0	1219.0	1220.0	1221.0	1222.0
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RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys
Issued February 10, 1941, at Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	State	Location		Description	Elev.	National Forest	Feb. 1 Snow Course Measurements					
				Locality					Av. Snow Depth		Av. Water Content			
									1940	1941	1940	1941		
RIO GRANDE														
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr. Pass		4-37N-2E	10000	Rio Grande	49.4	32.0	66.8	13.5	8.7	18.3
27	Upper Rio Grande	Rio Grande	"	Rio Grande Res.		13-40N-4W	9350	"	20.1	12.1	30.0	3.4	1.3	5.2
47	Silver Lakes	Alamosa R.	"	1mi. S. Silver L.		15-36N-5E	9600	"	19.2	11.8	26.5	3.8	2.1	5.6
49	River Springs	Conejos R.	"	10mi. W. Mogote		25-33N-6E	9300	"	21.2	16.7	25.8	4.1	2.3	5.9
74	LaVeta Pass #2	SanCristoCr.	"	LaVeta Pass		22-28S-70W	9300	SanCristoGr	22.2	15.2	29.1	4.7	3.0	6.4
75	Ute Ridge	Rio Grande	"	Rio Grande Res.		31-41N-4W	9700	Rio Grande	--	12.5	--	--	1.4	--
76	Summitville	Wightman Cr.	"	Summitville		30-37N-4E	11500	"	54.0	43.0	62.0	12.6	11.9	13.0
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass		17-32N-5E	10000	"	54.3	35.4	71.6	14.3	10.0	20.3
80	Santa Maria	N. Clear Cr.	"	Santa Maria Res.		8-41N-2W	9700	"	16.0	8.9	23.8	3.6	1.6	5.6
82	Culebra	Culebra R.	"	12mi. E. San Luis		37-2N105.2W	10000	SanCristoGr	28.7	20.0	37.4	7.0	4.5	9.6
84	Fort Garland	Big Ute Cr.	"	6mi. N. Ft. Garland		13-29N-72W	8200	"	23.6	21.1	26.1	6.2	1.9	5.4
1	Red River	Red River	N. Mex.	6mi. SE. Red River		29-28N-15E	9500	Carson	21.0	15.8	29.9	5.6	5.2	7.3
2	Taos Canyon	Rio de Taos	"	14mi. E. Taos		10-25N-15E	9000	"	24.5	12.4	30.8	5.6	4.2	8.1
4	Aspen Grove	Rio En Medio	"	10mi. NE. Santa Fe		12-18N-10E	9100	Santa Fe	33.1	17.1	52.8	6.4	3.3	8.0
5	Lee Ranch	Jemez Cr.	"	5mi. NW. Bland		3-18N-4E	9050	"	44.0	31.2	56.8	13.9	4.0	10.8
6	Canjilon	Canjilon Cr.	"	8mi. NE. Canjilon		4-26N-6E	9500	Carson	22.7	14.9	31.1	4.8	3.8	7.4
7	Rio Nutrias	Rio Nutrias	"	10mi. SE. Park View		6-27N-5E	7900	"	20.1	10.6	26.3	4.4	2.4	6.5
8	Panchuela	Panchuela Cr.	"	1mi. N. Cowles		34-19N-12E	8500	Santa Fe	18.5	11.0	26.0	4.4	2.9	6.0
9	Hematite Park*	Red River	"	3mi. SE. Red R.		8-28N-15E	9500	Carson	23.9	14.6	30.7	5.7	3.6	7.0
12	Tres Ritos	Agua Piedra	"	7mi. W. Holman		23-22N-13E	9000	"	42.0	--	42.0	15.7	--	15.7
15	Pay Role	Rock Creek	"	4mi. SE. Hopewell		16-28N-7E	10000	"	23.4	15.4	31.5	5.7	3.6	7.8
16	Jicarilla	Rock Lake Cr.	"	15mi. S. Dulce		9-29N-1W	8500	Jicarilla R.	28.6	24.7	32.5	7.1	5.2	9.0
17	Chama Divide	Willow Creek	"	6mi. W. Chama		36-9N-106.7W	7750	Off Forest	--	--	--	--	--	--
18	Chamita	Chamita Cr.	"	6mi. NW. Chama		36-9N-106.7W	8500	"	--	--	--	--	--	--
							Average for Drainage		28.4	19.2	37.4	6.8	4.7	9.3

*On adjacent drainage

